AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior versions and listings of claims in the application:

1. (Currently amended) A method of communicating information from a sensor, the sensor including a source of energy within [[a]] an explosion-proof housing thereof, energy from the energy source interacting with an analyte in a detectable manner, the sensor further having at least one transmissive section in the housing through which energy can be transmitted, the method comprising ~~the step~~:

placing a calibration cap in operative connection with the sensor;

communicating a wireless signal from the calibration cap to the sensor to place the sensor in a calibration mode;

modulating the emission of energy from the energy source in a manner that corresponds to information related to the calibration mode to be transmitted from the sensor through the transmissive section;

receiving the modulated emission of energy transmitted through the transmissive section formed in the explosion-proof housing by a detector on the calibration cap; and

displaying information corresponding to the modulated emission of energy on a display of the calibration cap.

2. (Currently amended) The method of claim 1 wherein the sensor has at least a sensing mode in which the energy source operates to interact with an analyte that may be present in an environment being tested and a communication mode in which the energy source operates to communicate information through the transmissive section~~, the~~

~~method further comprising the step of initiating the communication mode by placing an activator in operative connection with the sensor~~.

3. (Currently amended) The method of claim 2 wherein energy source [[in]] is an infrared energy source and the transmissive section is a window in the housing of the sensor~~, the housing being an explosion-proof housing, the activator initiating the communication mode in a wireless manner~~.

4. (Original) The method of claim 3 wherein the infrared energy source emits energy in the visible range of the spectrum in the communication mode.

5. (Currently amended) The method of claim 3 ~~further comprising the step of placing~~ wherein the step of placing the calibration cap in operative connection with the sensor places at least one magnet in operative connection with the calibration cap in operative connection with the housing to be in operative connection with a switch within the housing of the sensor.

6. (Currently amended) The method of claim 3 ~~further comprising the step of placing~~ wherein the step of placing the calibration cap in operative connection with the sensor places at least two magnets in operative connection with the calibration cap in operative connection with the housing at two distinct locations, each of the magnets being placed in operative connection with a separate switch within the housing of the sensor.

7. (Currently amended) The method of claim 6 wherein the magnets are seated in [[a]]] the calibration cap ~~member that is placed in operative connection with the housing of the sensor, the cap member further comprising a detector that is suitable to detect energy transmitted by the infrared energy source and a display in communicative connection with the detector to display information communicated via modulation of the infrared energy source~~.

8. (Canceled)

9. (Original) The method of claim 8, wherein the infrared energy source is first modulated in a manner to detect the analyte during a calibration.

10. (Original) The method of claim 9, wherein the infrared energy source is subsequently modulated in a manner to indicate whether the calibration passed or failed.

11. (Original) The method of claim 10 wherein the calibration is a zero calibration.

12. (Original) The method of claim 1 wherein the energy source emits energy in the visible light spectrum to interact with the analyte and to transmit information from the sensor through the transmissive section.

13. (Currently amended) A sensor for detecting the presence of an analyte in an environment being tested, the sensor comprising:

[[a]] an explosion-proof housing;

an energy source within the housing;

at least one detector within the housing adapted to detect interaction between energy emitted by the energy source and the analyte;

a transmissive section in the housing through which energy emitted from the energy source can be transmitted; ~~and~~

a controller within the housing in operative connection with the energy source to modulate emission of energy from the energy source in a manner to communicate information through the transmissive section[[.]]; and

at least a first switch within the housing, the sensor having at least a sensing mode in which the energy source operates to interact with analyte that may be present in the test environment and a communication mode in which the controller modulates

the energy source to communicate information through the window, the first switch being adapted to be activated from outside the housing by placing a magnet in operative connection with the housing to cause the sensor to enter the communication mode.

14. (Original) The sensor of claim 13 wherein the sensor is an infrared sensor and the energy source is an infrared energy source, the transmissive section being a window.

15. (Original) The sensor of claim 14 wherein the housing is an explosion-proof housing.

16. (Currently Amended) The sensor of claim 13 further comprising at least a second switch at a different position within the housing than the first switch and wherein at least two magnets must be placed in operative connection with the housing at two different locations to activate the first switch and the second switch to cause the sensor to enter the communication mode ~~15 wherein the sensor has at least a sensing mode in which the infrared energy source operates to interact with analyte that may be present in the test environment a communication mode in which the controller modulates the energy source to communicate information through the window, the sensor further comprising at least one switch that can be activated in wireless manner from outside the housing to cause the sensor to enter the communication mode~~.

17. (Currently amended) The sensor of claim [[16]] 13 wherein activation of the first switch further causes the sensor to enter a calibration mode.

18. (Currently amended) A infrared sensor system, comprising: an infrared sensor, the sensor comprising:

a housing;

an infrared energy source within the housing;

at least one detector within the housing adapted to detect interaction between energy emitted by the infrared energy source and the analyte;

a window in the housing through which energy emitted from the infrared energy source can be transmitted;

a controller within the housing in operative connection with the infrared energy source to modulate emission of energy from the infrared energy source; and

at least one switch operable to change a mode of the sensor from a sensing mode in which the infrared energy source operates to interact with analyte that may be present in the test environment to a calibration mode in which the controller modulates the energy source to communicate information regarding calibration of the sensor through the window; and

a calibration cap adapted to be [[place]] placed in operative connection with the sensor housing, the calibration cap comprising at least one activator adapted to affect the switch in a wireless manner to place the sensor in the calibration mode, the calibration cap further comprising a communication detector sensitive to energy communicated through the window by the infrared energy source and a display in communicative connection with the communication detector to display information transmitted via the infrared energy source.

19. (Currently amended) The infrared sensor system of claim 18 wherein the calibration cap further comprises ~~a communication detector sensitive to energy communicated through the window by the infrared energy source, the calibration cap further comprising a display in communicative connection with the communication detector to display information transmitted via the infrared energy source~~ at least one magnet adapted to operatively communicate with the at least one switch of the sensor to change the mode of the sensor.

20. (Currently amended) The infrared sensor system of claim [[19]] 18 wherein the sensor comprises at least two switches at separate location within the housing, wherein both switches must be activated to place the sensor in a calibration mode, the calibration cap comprising at least two magnets, each of the magnets being placed in operative connection with one of the switches when the calibration cap is placed in operative connection with the sensor housing.